

# **WARRENTON 2020 TRANSPORTATION PLAN**

**DEVELOPED BY THE  
TRANSPORTATION PLANNING DIVISION  
  
OF THE  
  
VIRGINIA DEPARTMENT OF TRANSPORTATION  
  
IN COOPERATION WITH  
  
THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY  
ADMINISTRATION  
  
&  
  
THE TOWN OF WARRENTON**

**May 2002**

**This report does not constitute a standard specification, regulation or provide a funding mechanism  
for the included transportation recommendations.**

## INTRODUCTION

The Warrenton 2020 Transportation Plan was developed as a joint effort between the Virginia Department of Transportation and the Town of Warrenton. The purpose of the study was to evaluate the transportation system in the Warrenton area and to recommend a set of transportation improvements that could best satisfy existing and future transportation needs. This study identified needs which are based upon capacity, roadway safety, geometric conditions, and land use. The study presents a set of recommendations that addresses these needs.

Improved transportation systems remain vital to Virginia's, as well as the local area's, continued economic growth and development. The provision for the effective, safe and efficient movement of people and goods is a basic goal of all transportation programs in the Commonwealth of Virginia. It is with this basic goal in mind, and with further consideration of environmental issues and local desires, that this transportation plan has been developed.

The Virginia Department of Transportation will use this plan when evaluating requests from the local governments for specific transportation projects and/or for implementing projects that the Department initiates. The list of recommendations will also be used in the statewide transportation planning process in order that the statewide magnitude of needs can be better quantified.

## STUDY AREA THOROUGHFARE SYSTEM

The Town of Warrenton is the county seat of Fauquier County. Warrenton is located at the intersection of several major transportation routes, including US 17, US 15, US 29, and Route 211. Warrenton is the largest incorporated town in Fauquier County. It is located approximately 40 miles southwest of Washington, D.C. and 35 miles northwest of Fredericksburg, Virginia. A finite urban area was established for purposes of this transportation study, which followed the corporate limits of the Town of Warrenton.

Inside the study area limits, a specific set of highways that have been approved by the Virginia Department of Transportation, the Federal Highway Administration, and the Town of Warrenton have been selected and designated as the area's urban thoroughfare system. The urban thoroughfare system is identified as roads that are functionally classified as collectors or arterials. The subsequent analysis and recommendations were limited to those designated roadways, with the exception of any recommended facility on new location and those improvements that have been requested by representatives of Warrenton on the local unclassified street system. In addition, improvements to the following other modes of transportation have been evaluated: bicycle/pedestrian facilities, intercity rail, bus and air travel, transit, paratransit, and taxi and goods movement.

## DEMOGRAPHIC OVERVIEW

Between 1990 and 2000, the population of the Town of Warrenton increased from about 5,100 to 6,700. Population growth in the Town of Warrenton averaged between two and three percent *per year* in the 1990s. Fauquier County had an increase in population of three percent for the entire decade from 1990 to 2000. With its urban services, Warrenton is a major focus of development in the county. In recent years, this area has begun to house commuters to the employment centers of Washington, D.C. and northern Virginia. The Warrenton Service District, including some areas that extend beyond the Warrenton corporate limits, has an estimated 10,000 residents in 2000 and

is anticipated to continue growing at one percent per year. (Sources: U.S. Census, Town of Warrenton)

## **PHASE ONE: BASE YEAR ROADWAY RECOMMENDATIONS**

### ***Intersection of Falmouth Street and Lee Street***

A traffic signal is warranted at the intersection of Falmouth Street and Lee Street, based on volumes at the intersection and accidents. A complete signal warrant analysis was conducted in association with the development of this plan. An immediate measure was taken by the Town during the development of this plan to address the problems at this intersection; a four-way stop was installed. The four-way stop is intended to be a transitional arrangement. However, before completing the installation of the signal, the Town intends to study the feasibility of a roundabout at this location. The estimated cost of a signal at this intersection is \$250,000. Some minor right-of-way acquisition may be required for this improvement, which accounts for \$70,000 of the estimated cost.

### ***Intersection of Bear Wallow Road and Old Broadview Avenue***

Eastbound traffic at this intersection would tend to turn right on Old Broadview and then face a difficult left turn at an unsignalized intersection on business Route 15 and 29. This recommendation involves installing signs that would direct this traffic to turn left on Old Broadview and right on Broadview Avenue, leading these travelers to a signalized intersection for their left turn onto business Route 15 and 29. The improvement consists of two route signs and is estimated to cost \$2,000.

### ***Intersection of Lee Highway and Branch Drive***

This intersection is attracting increased numbers of turning traffic due to adjacent commercial development. Along the 1.2 miles of Lee Highway, two traffic signals are in place (at Winchester Street and Blackwell Road) and one more has been proffered by a developer at Fletcher Street. Based on signal warrant analysis, a signal is recommended at Lee Highway and Branch Drive. The estimated cost of this improvement is \$180,000.

### ***Intersection of Broadview/West Shirley Avenue and Frost Avenue/Waterloo Street***

To meet the projected capacity demands at this intersection, additional turning lanes are recommended. The intersection improvement includes widening and reconfiguring the northbound approach on Shirley Avenue to include two left-turn lanes, two through-lanes, and a free-flow right-turn lane. Another lane should be added to the eastbound approach, and these lanes should be reconfigured to include two left-turn lanes, one through-lane, and a free-flow right-turn lane. The westbound approach should be reconfigured to include one left-turn lane, one through-lane and one free-flow right-turn lane. The estimated cost of this improvement is \$240,000, including \$80,000 for right-of-way.

### ***Intersection of Broadview Avenue, Lee Highway, and Winchester Street***

This intersection is projected to have capacity problems in the future for some of the turning movements. To correct these problems, an additional eastbound left-turn lane should be added on Lee Highway; one northbound right-turn lane should be added; and the westbound movement should be reconfigured to include a free-flow right-turn lane. The estimated cost of this improvement is \$160,000 for construction and \$80,000 for right-of-way, totaling \$240,000.

***Intersection of Lee Highway and Blackwell Road***

To address projected capacity deficiencies, one lane should be added to the southbound approach on Blackwell Road and the approach should be reconfigured to include two left-turn lanes and one through-right lane. The northbound lanes of Blackwell Road should be reconfigured to include one left-turn lane and one through-right lane. The estimated cost of this improvement is \$111,000, including \$37,000 for right-of-way.

**PHASE TWO: INTERIM YEAR (2010) ROADWAY RECOMMENDATIONS**

The Phase Two recommendations include widening of major thoroughfares, particularly Broadview Avenue and Lee Highway, which handle substantial through-traffic. An analysis was conducted for this plan to consider the potential effects of a western bypass constructed in Fauquier County from East Shirley Avenue south of the Town limits to the US 17 Spur outside the northwestern corner of town, which would provide a parallel through-route. If this project were constructed, the congestion levels predicted for 2010 would not be reached until 2020 on East Shirley Avenue, Broadview Avenue, and Lee Highway, as well as the intersections along that route. The western bypass is not included in this plan (as it is primarily located outside the town limits), nor is it included on the current VDOT plan for Fauquier County. Thus, it was not assumed to be constructed in time to prevent the projected 2010 capacity deficiencies on the parallel routes within the Town.

***Blackwell Road***

From Walker Drive to Lee Highway, Blackwell Road is recommended to be widened to a four-lane urban section to meet projected capacity demands. The estimated cost of this improvement is \$1,512,000, which consists of \$1,008,000 for construction and \$504,000 for right-of-way. The Town anticipates it may have an opportunity to construct this improvement sooner than 2010 through the development approval and proffer process, which could reduce the public cost of the improvement.

***East Shirley Avenue***

Reconstruct East Shirley Avenue to a three-lane urban roadway from the Warrenton southern corporate limits to Culpeper Street. This improvement is needed to address projected capacity deficiencies and to correct geometric deficiencies in the existing three-lane roadway. The estimated cost of the project is \$4,900,000 including \$980,000 for right-of-way. Phase three also contains an additional widening recommendation for East Shirley Avenue.

***Broadview Avenue***

From Waterloo Street to Winchester Street, reconstruct and widen Broadview Avenue to a standard six-lane divided urban roadway. This improvement is needed to meet projected capacity demands, and it will involve eliminating one of the continuous center turn-lanes, reconstructing the center lane as a channelized turn lane with raised medians, and adding an additional lane-width to accommodate three through-lanes in each direction. The estimated cost of this improvement is \$8,711,000 (\$6,969,000 for construction and \$1,742,000 for right-of-way.)

**Lee Highway**

From Winchester Street to the east corporate limits, widen to a standard urban divided roadway with six through-lanes and channelized left-turn lanes. This improvement will address projected capacity needs on this roadway. It will involve converting the continuous right-turn lane on the eastbound side of the roadway to a through-lane and adding a third through-lane for westbound traffic. The estimated cost of this improvement is \$10,091,000, including \$2,018,000 for right-of-way.

**Intersection of Broadview Avenue and Gold Cup Drive**

A traffic signal warrant analysis was conducted for this intersection. It does not meet the warrants in the base year, but projected traffic increases resulting from the approved housing development off of Gold Cup Drive are anticipated to substantially increase turning movements at this intersection by 2010. A traffic signal is anticipated to be warranted by 2010. There are access issues related to this improvement that would affect existing businesses on both sides of Broadview Avenue; the Town may have the opportunity to address some of these issues with property owners in the time period before this recommendation is needed. The estimated cost of the traffic signal and additional raised medians on Broadview Avenue totals \$220,000 including \$20,000 for right-of-way.

**PHASE THREE: STUDY YEAR (2020) ROADWAY RECOMMENDATIONS****Alexandria Pike**

Reconstruct Alexandria Pike from Waterloo Street to Blackwell Road as a standard three-lane urban roadway with a center turn lane. The improvement is needed to address capacity deficiencies. It is possible that a lesser improvement would be needed in the segment of Alexandria Pike from King Street to Blackwell Road, but the revised cross-section is recommended throughout for continuity. The estimated cost of this improvement is \$2,760,000 (\$1,840,000 for construction and \$920,000 for right-of-way).

**Blackwell Road**

Reconstruct Blackwell Road from Alexandria Pike to Walker Drive to a standard three-lane urban roadway with a center turn lane. The improvement is needed to address capacity deficiencies. The estimated cost is \$2,400,000, including 1,600,000 for construction and \$800,000 for right-of-way.

**East Shirley Avenue**

Widen East Shirley Avenue to a four-lane urban divided roadway with turn lanes from the Warrenton southern corporate limits to Culpeper Street. This improvement is needed to address projected capacity deficiencies. The estimated cost of the project is \$3,087,000 including \$1,029,000 for right-of-way (this is incremental to the Phase II improvement). Displacement of several homes and/or businesses is anticipated to be caused by this improvement.

**Waterloo Street**

To address projected capacity problems, Waterloo Street from Broadview Avenue to Alexandria Pike is recommended to be restriped as a three-lane roadway with continuous center turn lane. This would require the removal of on-street parking. The estimated cost of this improvement is \$60,000. The local recommendation for traffic calming on this roadway in the base year may lead to different traffic patterns that could make this re-striping improvement unnecessary. This will need to be re-examined in future thoroughfare plan updates.

***Intersection of East Shirley Avenue and Falmouth Street***

A traffic signal warrant was completed for this intersection. While a signal is not warranted in the base year, it is anticipated that future traffic levels will precipitate the need for a signal in the future. The estimated cost of this improvement is \$180,000.

**OTHER MODES OF TRANSPORTATION*****Parking***

Throughout the Town of Warrenton, most parking needs are met through on-street parallel parking and off-street parking facilities. Parallel parking is provided on Main Street in the business district and on several other thoroughfares including Culpeper Street and Waterloo Street. There are no parking recommendations being made as part of this study; however one of the Phase Three recommendations would remove parking on Waterloo Street. A parking study was completed for the Old Town area in February 2000. The study recommended that parking structures be constructed at two lots downtown within the next five years. Improved signage directing traffic to parking lots was also recommended. These improvements would be local projects.

***Bicycle / Pedestrian***

There are no recommendations associated with pedestrian or bicycle access. Sidewalks are provided along Main Street in the business district and along other corridors. The Warrenton Branch Greenway provides pedestrian/bicycle-exclusive access on an abandoned rail corridor in the southern part of town. The Town of Warrenton's comprehensive plan update (underway in 2001) includes extensive recommendations for local policies and improvements related to bicycle and pedestrian access.

***Transit, Paratransit, and Taxi***

Warrenton has a public transit service, Circuit Rider, that offers deviated fixed route service through a contract with Loudon Transit. This service is available weekdays and Saturdays within the Warrenton area for a fixed fee (although it is free on Mondays). There are also ridesharing services (such as carpool/vanpool matching) offered by the regional planning district commission. Private taxi service is also available in Warrenton. There are no recommendations in the plan associated with transit-related services.

***Goods Movement***

The I-17 bypass around the north side of Warrenton serves as a major truck route and has removed a majority of the truck traffic traveling through the Town. Broadview Avenue, Fletcher Drive, and Branch Drive serve as freight corridors. Old Town experiences some problems with delivery trucks and loading zones.

***Tourism***

The town sees increases in traffic during the beginning and ending months of winter as people from the north travel south for the winter. The Gold Cup horse races bring in 50,000 visitors in the spring and 20,000 visitors in the fall. Seasonal apple and Christmas tree sales also bring large numbers of visitors to Warrenton, as does the bed and breakfast business.

***Intercity Rail, Bus and Air Travel***

Travelers and commuters to northern Virginia/Washington D.C. can use a private express bus service that picks up passengers in the Warrenton Park and Ride lot just north of Warrenton on US 29. Greyhound bus service is available in Opal, about seven



miles south of Warrenton where US routes 17, 15, and 29 converge. Amtrak service passes through the southern part of Fauquier County. The nearest stops are in Culpeper to the south and Manassas to the north; both are within 20 miles of Warrenton. Air travelers are served by the Washington, D.C. regional airports, the closest of which is Dulles Airport approximately 30 miles northeast of Warrenton. Warrenton-Fauquier airport is a general aviation facility owned by the county, located in Midland, approximately 15 miles from Warrenton. There are no recommendations in the plan associated with regional modes of travel.

## LOCAL PROJECTS

### ***Lee Highway***

With a total of four traffic signals in this 1.2-mile stretch of road, traffic flow would benefit from coordination of the traffic signals. The estimated cost of this improvement is \$120,000. This is a base year recommendation.

### ***Waterloo Street***

In the base year, the Town is interested in developing traffic calming improvements to Waterloo Street. The objective of these improvements would be to encourage a more even distribution of traffic on the routes leading into Old Town; for example, there is excess capacity on Culpeper Street, but Waterloo is projected to have capacity problems by 2020. If successful, these improvements could avoid the need for capacity improvements, and particularly the removal of parking, on Waterloo Street. The estimated cost of this project is \$47,000.

## ENVIRONMENTAL OVERVIEW

An environmental overview has been conducted for the roadway recommendations that included widening (providing additional travel lanes) or development of new roadway facilities for the Town of Warrenton. Examples of items investigated in this section include known hazardous material sites, listed historic properties, and Virginia byway locations. The results of the environmental overview are included in the analysis of the recommended improvements for the Warrenton 2020 Transportation Plan Technical Report.

## LOCAL COORDINATION & CITIZEN PARTICIPATION

The development of the Warrenton 2020 Transportation Plan included several meetings with local staff members of the Town and included a public meeting held with VDOT representatives, PDC representatives, Town officials, and residents of Warrenton. For information for all thoroughfare roadways within the Town of Warrenton, contact the Town of Warrenton or visit the project web site at <http://www.vdoturbanplans.com>.

The coordination meetings consisted of a kick-off meeting and an existing conditions and draft recommendations meeting. The kick-off meeting, held in November 1999, enabled the project team to discuss with local staff the purpose and scope of the study, the schedule for data collection and plan preparation, and the coordination process. An update meeting was held in March 2001 to discuss additional, detailed analysis to be done for several intersections in the Town. The final coordination meeting was held in October 2001, in which the project team presented the results of baseline, interim year, and horizon year traffic analysis as well as the detailed intersection studies. Also in this meeting, the project team presented and discussed with Town officials the draft 2020 Transportation recommendations. An additional meeting was held in February 2002, to discuss the draft plan with the Town Council prior to the public meeting. Input was



provided by Town staff and the Town Council that was used to draft the final recommendations.

A public meeting was held at the Warrenton Town Hall on April 9, 2002 at 5:30 p.m. The purpose of this meeting was to present the recommendations to Town officials, citizens, and other interested parties, and to receive comments on the plan.

#### **PLAN ADOPTION**

The Warrenton Town Council adopted the Warrenton 2020 Transportation Plan at the Council meeting on May 14, 2002.

#### **ADDITIONAL INFORMATION**

More details on the development of the Warrenton 2020 Transportation Plan and the study recommendations are available in the Warrenton 2020 Transportation Plan Technical Report.

In addition to this 2020 Transportation Plan for the Town of Warrenton, the Virginia Transportation Development Plan (VTDP) also addresses transportation needs. The VTDP is a comprehensive listing of transportation projects scheduled for construction or improvement over the next six fiscal years, as well as anticipated funding allocations. Projects included in the Virginia Transportation Development Plan (VTDP) are not part of this recommendations package. The VTDP can be reviewed online at VDOT's website, <http://virginiadot.org/>. Information on VTDP projects for the Town of Warrenton can also be found by contacting the VDOT Resident Engineer at the Residency Office in Warrenton, Virginia at (540) 347-6441.

## WARRENTON TRANSPORTATION RECOMMENDATIONS

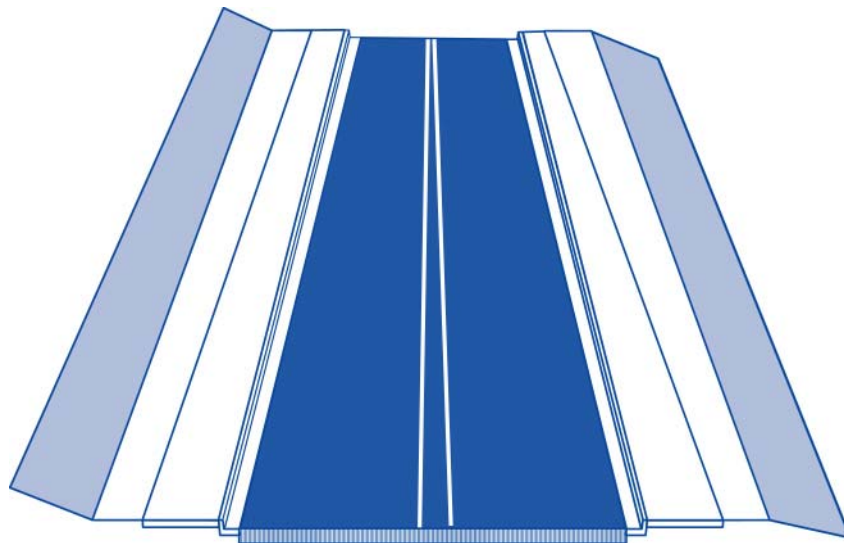
Route	Facility Name	From	To	Road Segment Length (miles)	Recommendation	Existing Typical Section (Width)	Recom. Typical Section (Width)	Total Cost (Year 2000 \$)	Average Daily Traffic	
									Year 1999	Year 2020
US 15 Bus	Alexandria Pike	Waterloo St	King St	0.34	Reconstruct to a standard three-lane urban roadway with center turn lane (2020)	R2 (24')	U3 (36')	1,786,000	7,660	12,250
US 15 Bus	Alexandria Pike	King St	Blackwell Rd	0.12	Reconstruct to a standard three-lane urban roadway with center turn lane (2020)	R2 (24')	U3 (36')	974,000	7,300	11,680
US 15 Bus	Blackwell Rd	Alexandria Pike	Walker Drive	0.40	Reconstruct to a standard three-lane urban roadway with center turn lane (2020)	R2 (24')	U3 (36')	2,400,000	8,170	13,070
US 15 Bus	Blackwell Rd	Walker Drive	Lee Highway	0.21	Reconstruct to a standard four-lane urban roadway (2010)	R2 (24')	U4 (48')	1,512,000	10,290	16,460
US 29 Bus	E. Shirley Ave	Warrenton SCL	Culpeper Street	0.98	Reconstruct to a standard three-lane urban roadway (2010) Widen to a four-lane urban divided roadway (2020)	U3 (33')	U4D (48')	7,987,000	12,170	17,040
US 211	Broadview Ave	Rte 211 Bus/Waterloo St	Winchester St	1.01	Widen to a six-lane divided urban roadway with dedicated turn-lanes (2010)	U4F (80')	U6D (72')	8,711,000	32,720	49,080
US 211	Lee Highway	Winchester St	Warrenton ECL	1.17	Widen to a standard six-lane divided urban roadway (2010)	U4D (54')	U6D (72')	10,091,000	28,490	42,730
US 211 Bus	Waterloo St	Broadview Ave	Alexandria Pike	0.73	Remove parking and re-stripe as a three-lane urban cross-section (2020)	U2 (30')	U3 (30')	60,000	7,690	10,760
	Intersection Improvement	Falmouth St.	Lee Street	N/A	Install traffic signal (Base Year)	N/A	N/A	250,000	N/A	N/A
	Intersection Improvement	Bear Wallow Rd	Old Broadview Ave	N/A	Install signage to encourage east-bound traffic to turn left and use the traffic signal at Broadview and Winchester (Base Year)	N/A	N/A	2,000	N/A	N/A
	Intersection Improvement	Lee Highway	Branch Drive	N/A	Install traffic signal (Base Year)	N/A	N/A	180,000	N/A	N/A
	Intersection Improvement	Broadview Ave/ W Shirley Ave	Frost Ave/ Waterloo St	N/A	Add turning lanes (Base Year)	N/A	N/A	240,000	N/A	N/A
	Intersection Improvement	Broadview Ave/ Lee Highway	Winchester St	N/A	Add turning lanes (Base Year)	N/A	N/A	240,000	N/A	N/A
	Intersection Improvement	Lee Highway	Blackwell Rd	N/A	Add turning lanes (Base Year)	N/A	N/A	111,000	N/A	N/A
	Intersection Improvement	Broadview Ave	Gold Cup Dr.	N/A	Install traffic signal (2010)	N/A	N/A	220,000	N/A	N/A
	Intersection Improvement	E Shirley Ave	Falmouth St.	N/A	Install traffic signal (2020)	N/A	N/A	180,000	N/A	N/A
Local Initiative	Lee Highway	Winchester St	Warrenton ECL	1.17	Coordinate traffic signals (Base Year)	U4D (54')	U6D (72')	120,000	28,490	42,730
Local Initiative	Waterloo St.	Broadview Ave	Alexandria Pike	0.73	Traffic calming improvements (Base Year)	U2 (30')	U2 (30')	47,000	7,690	10,760
<b>Total Cost *</b>								<b>\$34,944,000</b>		

\* Does not include any recommendations of local initiative.

## TYPICAL SECTIONS<sup>1</sup>

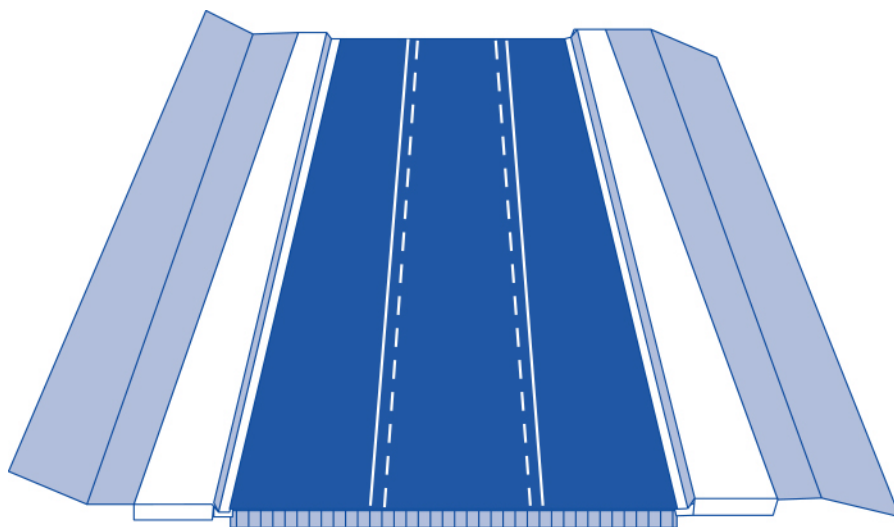
U2

Urban two-lane roadway with curb and gutter



U3

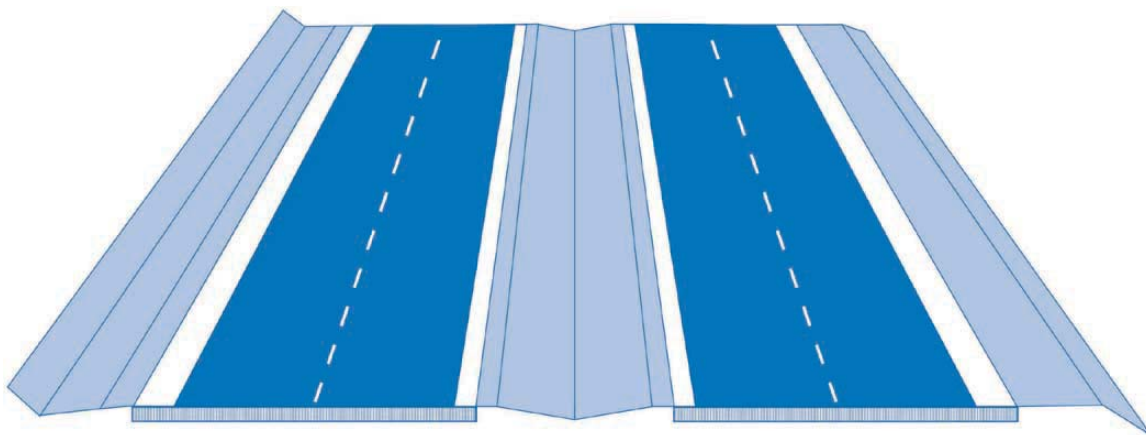
Urban two-lane roadway with curb and gutter and center turn-lane



<sup>1</sup> Recommended typical sections assume 12' wide travel lanes.

U4D

Urban four-lane roadway with curb and gutter and raised median



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U6D

Urban six-lane divided roadway with curb, gutter, and sidewalks.

